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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/823,408

Applicant(s)

ZABKA, J. BRITTON

Examiner

Audrey Y. Chang

Art Unit

2872

-- Th MAILING DATE of this communication appears on the cov r sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12, 15-20, 23-35, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) 23, 24 and 27-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12, 15-20, 25-26 and 37-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Remark*

- This Office Action is in response to applicant's amendment filed on June 27, 2003, which has been entered as paper number 9.
- By this amendment, the applicant has amended claims 1-3, 15 and 37.
- Claims 1-9, 12, 15-20, 25-26 and 37-38 remain pending in this application.
- Claims 23-24 and 27-35 are **withdrawn** from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in **Paper No. 4**.
- The rejections to claims 1-9, 12, 15-20 and 25-26 under 35 USC 112, second paragraph, set forth in the previous Office Action March 31, 2003, are withdrawn **with the exception** of the feature concerning "**substantially identical**".

### *Response to Amendment*

1. The amendment filed on June 27, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: **claim 1 has been amended** to include the feature of including a "shutter means positioned in said object beam path between said source dividing means and said recording medium support", **claim 37 has been amended** to include the feature having a "plurality of **identical** reference beam paths" and claim 38 has been amended to include the feature having "second reference beam being **identical** to the said first reference beam". The specification while gives support to have a shutter means (17, Figure 1) in the object beam path it **never** gives support for having a shutter means in the object path *between* the source dividing means (19, Figure 1) *and* the recording medium support 49). The specification and the

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claims fail to give support for the plurality of reference beam paths to be identical. All of figures of the specification show that the plurality of reference beam paths to be orientated at *difference angles* and/or to have *different* optical path length. It is known in the art that the orientation and the optical path length of the recording beams are the crucial factors for determining the hologram recorded by the beams. In this manner, the first reference beam and the second reference beam cannot be identical to each other.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1-9, 12, 15-20, 25-26 and 37-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reasons for rejection based on the newly added matters are set forth in the paragraph above.**

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-9, 12, 15-20 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The reasons for rejection based on the indefinite phrase "*substantially identical*" are set forth in the previous Office Action dated March 31, 2003. The feature concerning "*substantially identical*" is

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very confusing since the applicant seems to argue that the reference beams are directed at different angles to the recording medium, if such is the case they cannot be identical to each other.

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-4, 7-9, 12, 15-20, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Bencze et al (PN. 4,212,536) in view of the patent issued to Klug et al (PN. 6,266,167).**

*The reasons for rejection are set forth in the previous Office Action dated March 31, 2003.*

**Claim 1 has been amended** to include the feature that the a shutter means is positioned in the object beam path between the source dividing means and recording medium support. This feature is **not** supported by the specification for the reason stated above. Nevertheless, **Klug et al** teaches that shutter means (225) may be placed in the object beam path between the source dividing means (205, Figure 8) and recording medium support, (please see Figure 8). It would then have been obvious to one skilled in the art to modify the apparatus of Bencze et al to have the shutter means placed in the object beam path between the source dividing means and the recording medium for the benefit of providing individual switching and control of the object beam.

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8. **Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patents issued to Bencze et al and Klug et al as applied to claim 1 above, and further in view of the patent issued to Kitamura (PN. 5,949,931).**

*The reasons for rejection are set forth in the previous Office Action dated March 31, 2003 and paragraph above.*

9. **Claim 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patents issued to Bencze et al and Klug et al as applied to claim 1 above, and further in view of the patent issued to Psaltis et al (PN. 5,671,073).**

*The reasons for rejection are set forth in the previous Office Action dated March 31, 2003 and paragraph above.*

10. **Claims 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Bencze et al in view of the patent issued to Hart (PN. 6,151,141).**

*The reasons for rejection are set forth in the previous Office Action dated March 31, 2003.*

**Claim 37 has been amended** to include the feature having a plurality of **identical** reference beam paths and **claim 38 has been amended** to include the feature having the first and second reference beam to be **identical** to each other. These features are **not supported** by the specification, since all of the figures show that the plurality of reference beam paths has different orientations and/or different optical path length which make the plurality of reference beams **not able** to have “identical optical path” and the first and second reference beams **cannot** be identical to each other. These features therefore cannot be fully examined here. However in the broadest interpretation, if one puts in the consideration of the ultra fast of the speed of light, the optical paths of the reference beams as shown in the cited Bencze reference and instant application can be interpreted in the same manner to have *negligible* difference

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between each path since the fast moving of the light between the paths will introduce negligible phase difference between the beams.

***Response to Arguments***

11. Applicant's arguments filed on June 27, 2003 have been fully considered but they are not persuasive. The newly amended claims have been fully considered and they are rejected for the reasons stated above.

12. In response to applicant's arguments which states that the cited *Bencze* reference shows that the three reference beams are not identical therefore differs from the instant application, the examiner respectfully disagrees for the reasons stated below. The Bencze reference discloses the three reference beams each follows a beam path in the **same manner** as in the instant application as shown in Figures 1, 2, 6, and 9-12, namely each beam path has different angle orientation with respect to the recording medium and/or different path difference with respect to the recording medium. The plurality of reference beams taught by the cited Bencze reference *is therefore "identical" to each other in the same way* as the plurality of reference beams of the instant application.

13. In response to applicant's arguments which state that the facts that the cited Bencze reference teaches only one source and one object beam and the cited Klug reference teaches more than one sources and more than one object beams *prevent* the teachings of using a shutter in each of the object beam path to control the switching of the object beam by the cited Klug reference to be applied in the disclosure of the Bencze reference, the examiner respectfully disagrees for the reasons stated below. The fact of using a shutter in the beam path to switch on or block off the light beam, as disclosed in both references, *do not depend* on whether there is one or more than one sources or light beams. The mere fact of *using a shutter means to control the switching of a light beam* as taught by the cited Klug reference is relied upon,

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where such fact does not depend on the nature of the beam to be identified either as a reference beam or an object beam or the nature concerning of the number of the sources is used.

14. In response to applicant's argument concerning claim 2, the applicant is respectfully directed to the reasons for rejection stated in the previous Office Action dated March 31, 2003 and the disclosure of cited Klug reference at column 10 lines 40-46. With regard to claim 4, the applicant is respectfully noted that a plurality of fiber optics can be used to direct the reference beams to address the recording medium as shown in Figure 19. Furthermore, the applicant is respectfully reminded that the cited Bencze reference has already shown that the plurality of reference beams are addressing the recording medium at *different angles*. *The cited Klug reference is relied upon to show merely the fact that optical fibers can be used to direct and transmit the light beams*. The instant application has also disclosed to use beam steering lens such as lens (165 in Figure 10) to direct the beams from the optic fibers. The applicant is respectfully reminded that the feature concerning using a steering lens or not is NOT in the claims which therefore cannot be relied upon to overcome the rejections.

15. In response to applicant's arguments which stated that the cited Klug reference teaches to use to a beam steering lens (405) to modulate the reference beams but it does not teach that *each* of the reference beams includes means for manipulation, which therefore differs from the instant application, the examiner respectfully disagrees. If as admitted by the applicant that the steering lens modulates all of the reference beams then in a way *each* of the reference beam includes means for modulation, the means does not need to be different and if the function of modulation is achieved, weather by one element or a plurality of elements really do not provide any patentably difference to one skilled in the art.



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16. In response to applicant's arguments concerning claims 15-20, the applicant is respectfully noted that the spatial light modulator in cited Klug reference is for providing object information and such is a standard practice in the holographic recording art.

17. In response to applicant's arguments concerning claims 37 and 38, the applicant is respectfully reminded that the object information in the object beam is changed as taught by the cited Hart reference.

### *Conclusion*

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

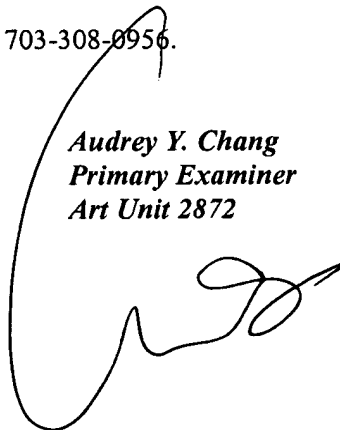
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

*Audrey Y. Chang*  
*Primary Examiner*  
*Art Unit 2872*

A. Chang, Ph.D.

A large, stylized handwritten signature in black ink, likely belonging to Audrey Y. Chang, positioned to the right of her printed name and title.